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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 09 JUN 2004

WIPO PCT

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|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Applicant's or agent's file reference METMI002 | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) | |
| International application No. PCT/BR 03/00054 | International filing date (day/month/year) 01.04.2003 | Priority date (day/month/year) 02.04.2002 |
| International Patent Classification (IPC) or both national classification and IPC B02C21/02 | | |
| Applicant METSO MINERALS (BRASIL) LTDA et al. | | |



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- | | | |
|------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I | <input checked="" type="checkbox"/> | Basis of the opinion |
| II | <input type="checkbox"/> | Priority |
| III | <input type="checkbox"/> | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | <input type="checkbox"/> | Lack of unity of invention |
| V | <input checked="" type="checkbox"/> | Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI | <input type="checkbox"/> | Certain documents cited |
| VII | <input type="checkbox"/> | Certain defects in the international application |
| VIII | <input type="checkbox"/> | Certain observations on the international application |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date of submission of the demand 22.10.2003 | Date of completion of this report 08.06.2004 |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Kopacz, I Telephone No. +49 89 2399-7192  |

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/BR 03/00054

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-11 as originally filed

Claims, Numbers

1-21 as originally filed

Drawings, Sheets

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/BR 03/00054**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-----------|
| Novelty (N) | Yes: Claims | 3,6,8-21 |
| | No: Claims | 1,2,4,5,7 |
| Inventive step (IS) | Yes: Claims | 9-21 |
| | No: Claims | 1-8 |
| Industrial applicability (IA) | Yes: Claims | 1-21 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:
D1: DE-A-1134027
D2: US-A-4 598 875
2. The application does not meet the requirements of Article 6 PCT, because claims 1, 11 are not clear.
- 2.1 It is clear from the figs. 3, 7 and the description on p. 8 line 30 - p. 9 line 8 and on page 9 lines 18-21 that the following features are essential to the definition of the subject-matter of claim 1:

(a) roller 44 (fig.7) or a plurality of rollers 44 (fig.3)
(b) end rolls 47, 48 and compensating roll 49

Since independent claim 1 does not contain these features it does not meet the requirements following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features necessary for the definition of the invention.

- 2.2 The statement in claim 1: "...where the belt conveyor imparts to the material a path that is substantially coplanar and opposite in relation to that imparted to the material in the inlet portion, said ascending curved path presenting a curvature..." appears to define the structure of the belt conveyor in relation to the path of the material transported which is not a part of the belt conveyor, instead of clearly define the structure of the conveyor belt in terms of technical features (parts) of the belt conveyor. From the above statement it is not clear for the skilled person which additional technical features of the belt conveyor should be protected (see Rule 6.3).
- 2.2 The term "V" used in claim 11 is vague and unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear.

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International application No. PCT/BR03/00054

3. The present application does not satisfy the criterion set forth in Article 33(2) PCT, because the subject-matter of claims 1, 2, 4, 5, 7 is not new in respect of prior art as defined in the regulations (Rule 64(1)-64(3) PCT).

3.1 Document D1 discloses in particular in fig.1:

A belt conveyor comprising a conveying upper run presenting a feed end and a discharge end, and a return lower end, where the conveying upper run comprises a curved extension, which is concave and ascending and presents an inlet lower portion and outlet upper portion, the latter ending at the discharge end of the conveying upper run, where the belt conveyor imparts to the material a path that is substantially coplanar and opposite in relation to that imparted to the material in the inlet portion, said ascending curved path presenting a curvature so as to produce, on the material conveyed at a determined belt speed, a centrifugal force sufficient to maintain said material seated against the curved extension of the conveying upper run, until reaching the discharge end (see col.1, lines 45-47; col.3 lines 1-5).

Features mentioned in point 2.1 of the present letter are as well known from D1, see two rolls supporting end portions of the belt 5 in at fig.1, one compensating roll, together with a roll 3 supporting concave portion of the belt 5.

3.2 Additional features of claims 2, 4, 5, 7 can be found in D1 in fig.1.

4. The present application does not meet the requirements of Article 33(3) PCT, because the subject-matter of claims 3, 6, 8 does not involve an inventive step.

4.1 The features of claims 3, 8 are normal design option obvious for the person skilled in the art, whereas application of a plurality of rollers for supporting a curved part of a conveying belt is already known from D2 see fig.6, 119 and col.5 lines 35-39.